

Application No. 10/798,755
Response to Office Action

Customer No. 01933

Listing of Claims:

1. (Currently Amended) A ~~lump~~ group management apparatus comprising:

a plurality of inspection/manufacturing apparatuses arranged in a semiconductor production line;

5 sensor units for acquiring maintenance information concerning maintenance target items of the respective inspection/manufacturing apparatuses;

a plurality of inspection/manufacturing apparatus computers,
each of which is connected ~~with each of or a groups~~ to at least
10 one of the inspection/manufacturing apparatuses and ~~includes a~~
~~function to control~~ controls operations of the ~~respective~~ at
least one inspection/manufacturing ~~apparatuses~~ apparatus
connected thereto in accordance with operation conditions
corresponding to ~~the respective~~ said at least one
15 inspection/manufacturing ~~apparatuses~~ apparatus; and

a management computer which is connected with the ~~respective~~
inspection/manufacturing apparatus computers through a
communication line, ~~and includes:~~ said management computer
comprising:

20 a transmission/reception ~~function~~ section to
~~transmit/receive~~ transmit and receive information to and from the
inspection/manufacturing apparatus computers with respect to at

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least one of: each information item of the operation conditions
~~set to corresponding to~~ the respective inspection/manufacturing
25 apparatuses, or and the maintenance information from each said
sensor unit; ~~of the inspection/manufacturing apparatuses to/from~~
~~the respective inspection/manufacturing apparatus computers;~~

a change function section to intensively manage the
operation conditions set to the respective inspection/
30 manufacturing apparatus computers ~~in a lump as a group~~ and
to change the respective operation conditions in a lump of at
least a selected plurality of the inspection/manufacturing
apparatuses as a group with respect to the at least one
inspection/manufacturing computer ~~of the specified each~~

35 corresponding to said at least a plurality of the inspection/
manufacturing apparatus apparatuses;

a notification function section to intensively manage
the maintenance information from each sensor unit of each
inspection/manufacturing apparatus ~~in a lump as a group~~, to
40 ~~monitor an abnormality of the maintenance information of the~~
respective inspection/manufacturing apparatuses ~~based on the~~
~~maintenance information~~ in order to predict ~~the abnormality a~~
problem, and notify to issue a warning at ~~the a~~ time of
occurrence of the ~~abnormality problem;~~ and

45 a display function section to display on a same display
screen of a monitor device: (i) at least one of each said

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information item of the operation conditions of the respective
inspection/manufacturing apparatuses, ~~or and~~ each said
maintenance information item, and (ii) an arrangement layout
50 drawing of the ~~respective~~ inspection/manufacturing apparatuses,
~~on the same screen of a monitor device.~~

2. (Currently Amended) The ~~lump~~ group management apparatus
according to claim 1, wherein each of the inspection/
manufacturing apparatuses has ~~at least one~~ a plurality of types
of inspection functions; and

5 wherein the change section of the management computer
selects at least one of the inspection functions, and changes
only the selected at least one inspection function when changing
the operation conditions of said at least a plurality of the
inspection/manufacturing apparatuses as a group. ~~function of a~~
10 ~~pattern inspection, a line width inspection, an auto macro~~
~~inspection and a micro inspection.~~

Claim 3 (Canceled).

4. (Currently Amended) The ~~lump~~ group management apparatus
according to claim 1, wherein the display section of the
management computer ~~further includes as the display function a~~
~~function to display~~ displays the inspection/manufacturing

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- 5 ~~apparatus~~ apparatuses as a management ~~target~~ targets and ~~its~~
~~displays the inspection/manufacturing apparatuses and the~~
operation conditions thereof in ~~the form of a list~~ respective
lists, and
- 10 wherein the display section does not display the management
~~target displayed in this list and each inspection/manufacturing~~
any apparatus which is not a management target and not displayed
in ~~the~~ a list, and displays the inspection/manufacturing apparatuses
as the management targets in a different conformations
conformation than said any apparatus that is not a management
15 target in the arrangement layout drawing.

5. (Currently Amended) The ~~ump~~ group management apparatus
according to claim 1, wherein, when at least one of the
inspection/manufacturing apparatuses is specified on the
arrangement layout drawing, the display section of the management
5 computer ~~further includes as the display function a function to~~
~~visually display and output the arrangement layout drawing in the~~
~~monitor device, and display~~ displays each said specified
inspection/manufacturing apparatus and the other in a different
conformation than unspecified inspection/manufacturing
10 apparatuses ~~which are not specified in different conformations in~~
the arrangement layout drawing.

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6. (Currently Amended) The ~~lump~~ group management apparatus according to claim 1, wherein, when at least one of the inspection/manufacturing apparatuses is specified on the arrangement layout drawing, the display section of the management
5 ~~computer further includes as the display function a function to visually display and output the arrangement layout drawing in the monitor device, and display~~ extracts and displays the maintenance information corresponding to the at least one specified
inspection/manufacturing apparatus, and displays each said
10 specified inspection/manufacturing apparatus as a maintenance target so as to be in a different from the other conformation than unspecified inspection/manufacturing apparatuses in the arrangement layout drawing.

Claim 7 (Canceled).

8. (Currently Amended) The ~~lump~~ group management apparatus according to claim 1, wherein the management computer further ~~includes a function~~ comprises a setting section to set a timing to validate the operation conditions changed as a group. in a
5 ~~lump with respect to each specified inspection/manufacturing apparatus.~~

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9. (Currently Amended) The ~~lump~~ group management apparatus according to claim 1, wherein the ~~management computer further includes a sort/select function to classify/rearrange the operation conditions set to the~~ said plurality of inspection/
5 manufacturing apparatuses in accordance with each are classified for changing the corresponding operation conditions one of: by
apparatus, each by apparatus category, or each apparatus group and collectively rewrites the operation conditions of an
inspection/manufacturing apparatus classified by using the
10 sort/select function as the change function and by
inspection/manufacturing line, and

wherein the display section displays the operation
conditions corresponding to the classified inspection/
manufacturing apparatuses in a display column, the operation
15 conditions are one of set and rearranged via manipulation of the
display column, and the change section rewrites the operation
conditions of the classified inspection/manufacturing apparatuses
as a group.

Claim 10 (Canceled).

11. (Currently Amended) The ~~lump~~ group management apparatus according to claim 1, wherein the ~~management computer further includes as the notification function a function to determine~~

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maintenance target items of the respective inspection/
5 manufacturing apparatuses comprise a light source used in
inspection or manufacture in each of the inspection/manufacturing
apparatuses; and as a maintenance target item, integrate
wherein the notification section: (i) integrates lighting
times of the respective light sources of the respective
10 inspection/manufacturing apparatuses and compare the compares an
integration result with an average life time, generate (ii)
generates a notification to call attention when the light source
is close to a life end point, keep giving (iii) generates a
warning by using sound until replacement of the light source when
15 the average life time is reached and when the light source cannot
be used, and notify (iv) notifies a portable terminal of an
operator of a warning.

12. (Currently Amended) The lamp group management apparatus
according to claim 1, wherein the management computer further
includes a light control function to determine maintenance target
items of the respective inspection/manufacturing apparatuses
5 comprise a light source used in inspection or manufacture in each
of the inspection/manufacturing apparatuses; and as a maintenance
target item, illuminate an
wherein the management computer further comprises a light
control section which: (i) illuminates a reference inspection/

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- 10 manufacturing object ~~as a reference~~ each said light source while
changing a voltage of the light source, ~~in advance, create~~
(ii) creates an ideal lamp characteristic curve from based on
brightness data and a voltage obtained by measuring by using the
with a corresponding said sensor units unit a brightness of
15 reflected light beams acquired from reflected from the reference
inspection/manufacturing object during the illumination and
brightness data, and adjust (iii) during inspection/manufacturing
of an object to be inspected/manufactured, adjusts a voltage of
20 the light source in such a manner that the a brightness of the
object to be inspected/manufactured becomes is equal to the a
brightness relative corresponding to a set voltage having of the
ideal lamp characteristic curve. characteristics in an
inspection/manufacturing step of each of the
inspection/manufacturing apparatuses.